

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

GLJ, LLC d/b/a O2-COOL,

Plaintiff,

V.

MANY MINI TOYS,
AD-LINE INDUSTRIES, INC.,
GOODVIEW INDUSTRIES CO., INC.,
ELRAM CORPORATION AND
PENGUIN PRODUCTS LLC,

Defendants.

FILED: AUG 05, 2008

Civil Action No. 08CV4412

JUDGE KENNELLY

MAGISTRATE JUDGE COX

RCC

COMPLAINT

Plaintiff, GLJ, LLC, for its complaint against defendants Many Mini
Toys, Ad-Line Industries, Inc., Goodview Industries Co., Inc., Elram Corporation
and Penguin Products LLC alleges:

1. This is an action for infringement of United States Letters Patent Nos. 5,338,495 and 5,843,344. Jurisdiction is vested in this Court pursuant to 28 U.S.C. § 1338(a) and venue lies in this district by virtue of 28 U.S.C. §§ 1391 and 1400(b).

2. Plaintiff GLJ, LLC ("GLJ"), doing business as O2-Cool, is a limited liability company organized and existing under the laws of the State of

Illinois and has a principal place of business at 1415 N. Dayton Street, Suite 2S, Chicago, Illinois 60622.

3. Defendant, Many Mini Toys ("MMT"), is, on information and belief, an entity doing business under the laws of the state of New York. It has a principal place of business at 300 Jericho Quadrangle, Suite 230 West, Jericho, New York 11753. On information and belief, MMT is doing business within this district.

4. Defendant, Ad-Line Industries, Inc. ("Ad-Line"), is, on information and belief, an entity doing business under the laws of the state of California. It has a principal place of business at 3777 Depot Road, Suite 419, Hayward, California 94545. On information and belief, Ad-Line is doing business within this district.

5. Defendant, Goodview Industries Co., Inc. ("Goodview"), is, on information and belief, an entity doing business under the laws of the state of California. It has a principal place of business at 28971 Hopkins Street, Unit 5, Hayward, California 94545. On information and belief, Goodview is doing business within this district.

6. Defendant, Elram Corporation ("Elram"), is, on information and belief, an entity doing business under the laws of the state of Massachusetts. It has a principal place of business at 89 Globe Mills Avenue, Fall River, Massachusetts 02724. On information and belief, Elram is doing business within this district.

7. Defendant, Penguin Products LLC ("Penguin"), is, on information and belief, an entity doing business under the laws of the state of New York. It has a principal place of business at 543 Summa Avenue, Westbury, New York 11590. On information and belief, Penguin is doing business within this district.

COUNT I

8. For its cause of action under Count I of the Complaint, GLJ realleges and incorporates herein by reference its allegations of Paragraphs 1-7 of the Complaint as if expressly set forth herein.

9. On August 16, 1994, United States Letters Patent No. 5,338,495 ("the '495 patent") was duly and legally issued by the United States Patent and Trademark Office for an invention entitled "Portable Misting Fan". A true and correct copy of the '495 Patent is attached as Exhibit A hereto. GLJ is the

owner of the entire right, title and interest in the '495 patent, and has the right to bring suit for infringement thereon.

10. MMT has, on information and belief, unlawfully and intentionally infringed the '495 patent in this district and elsewhere by making, having made, using, offering for sale and/or selling spray fan water bottles embodying the invention of the '495 patent, including the spray fan water bottles identified by the product numbers WL 415 and WL 302. On information and belief, MMT has induced infringement and/or has contributed to the infringement of the '495 patent in this district and elsewhere.

11. Ad-Line has, on information and belief, unlawfully and intentionally infringed the '495 patent in this district and elsewhere by making, having made, using, offering for sale and/or selling spray fan water bottles embodying the invention of the '495 patent, including the spray fan water bottle identified by the product number AD-3093. On information and belief, Ad-Line has induced infringement and/or has contributed to the infringement of the '495 patent in this district and elsewhere.

12. Goodview has, on information and belief, unlawfully and intentionally infringed the '495 patent in this district and elsewhere by making, having made, using, offering for sale and/or selling spray fan water bottles

embodying the invention of the '495 patent, including the spray fan water bottles identified by the product numbers MT-H231AF and MT-H231BB. On information and belief, Goodview has induced infringement and/or has contributed to the infringement of the '495 patent in this district and elsewhere.

13. Elram has, on information and belief, unlawfully and intentionally infringed the '495 patent in this district and elsewhere by making, having made, using, offering for sale and/or selling spray fan water bottles embodying the invention of the '495 patent, including the spray fan water bottle identified by the product number FS206. On information and belief, Elram has induced infringement and/or has contributed to the infringement of the '495 patent in this district and elsewhere.

14. Penguin has, on information and belief, unlawfully and intentionally infringed the '495 patent in this district and elsewhere by making, having made, using, offering for sale and/or selling spray fan water bottles embodying the invention of the '495 patent, including the spray fan water bottle identified by the item number FR-FANB8. On information and belief, Penguin has induced infringement and/or has contributed to the infringement of the '495 patent in this district and elsewhere.

15. The wrongful acts of MMT, Ad-Line, Goodview, Elram and Penguin as alleged herein were undertaken without authority and without license from GLJ. On information and belief, MMT, Ad-Line, Goodview, Elram and Penguin had actual notice of said Letters Patent and their acts of infringement have been willful and wanton, in blatant disregard for the intellectual property rights of GLJ.

16. GLJ has suffered damage by reason of the acts of infringement by MMT, Ad-Line, Goodview, Elram and Penguin and will suffer additional and irreparable damage unless MMT, Ad-Line, Goodview, Elram and Penguin are enjoined by this Court from continuing their acts of direct infringement, inducement of infringement and/or contributory infringement.

COUNT II

17. For its second cause of action, GLJ realleges and incorporates herein by reference its allegations of Paragraphs 1-16 of the Complaint as if expressly set forth herein.

18. On December 1, 1998, United States Letters Patent No. 5,843,344 ("the '344 patent") was duly and legally issued by the United States Patent and Trademark Office for an invention entitled "Portable Fan and

Combination Fan and Spray Misting Device". A true and correct copy of the '344 Patent is attached as Exhibit B hereto. GLJ is the owner of the entire right, title and interest in the '344 patent, and has the right to bring suit for infringement thereon.

19. MMT has, on information and belief, unlawfully and intentionally infringed the '344 patent in this district and elsewhere by making, having made, using, offering for sale and/or selling water spray fans embodying the invention of the '344 patent, including the water spray fan identified by the product number S 5892. On information and belief, MMT has induced infringement and/or has contributed to the infringement of the '344 patent in this district and elsewhere.

20. The wrongful acts of MMT as alleged herein were undertaken without authority and without license from GLJ. On information and belief, MMT had actual notice of said Letters Patent and its acts of infringement have been willful and wanton, in blatant disregard for the intellectual property rights of GLJ.

21. GLJ has suffered damage by reason of the acts of infringement by MMT and will suffer additional and irreparable damage unless MMT is enjoined by this Court from continuing its acts of direct infringement, inducement of infringement and/or contributory infringement.

WHEREFORE, GLJ requests that this Court enter a judgment in favor of GLJ and against MMT, Ad-Line, Goodview, Elram and Penguin awarding to GLJ the following relief:

A. Ordering, adjudging and decreeing that MMT, Ad-Line, Goodview, Elram and Penguin have directly infringed the '495 patent in violation of 35 U.S.C. § 271(a) by making, having made, using, selling and/or offering for sale spray fan water bottles embodying the invention of the '495 patent;

B. Ordering, adjudging and decreeing that that MMT has directly infringed the '344 patent in violation of 35 U.S.C. § 271(a) by making, having made, using, selling and/or offering for sale water spray fans embodying the invention of the '344 patent;

C. Ordering, adjudging and decreeing that MMT, Ad-Line, Goodview, Elram and Penguin have induced the infringement of the '495 patent in violation of 35 U.S.C. § 271(b);

D. Ordering, adjudging and decreeing that MMT has induced the infringement of the '344 patent in violation of 35 U.S.C. § 271(b);

E. Ordering, adjudging and decreeing that MMT, Ad-Line, Goodview, Elram and Penguin have engaged in acts amounting to contributory infringement of the '495 patent in violation of 35 U.S.C. § 271(c);

F. Ordering, adjudging and decreeing that MMT has engaged in acts amounting to contributory infringement of the '344 patent in violation of 35 U.S.C. § 271(c);

G. Ordering, adjudging and decreeing that the acts of infringement, inducing infringement and contributory infringement of the '495 patent committed by MMT, Ad-Line, Goodview, Elram and Penguin were committed willfully and knowingly;

H. Ordering, adjudging and decreeing that the acts of infringement, inducing infringement and contributory infringement of the '344 patent committed by MMT were committed willfully and knowingly;

I. Enjoining, both preliminarily and permanently, MMT, Ad-Line, Goodview, Elram and Penguin, their parents, principals, officers, directors, agents, affiliates, servants, attorneys, employees and all others in privity with them from infringing the '495 patent;

J. Enjoining, both preliminarily and permanently, MMT, its parents, principals, officers, directors, agents, affiliates, servants, attorneys, employees and all others in privity with it from infringing the '344 patent;

K. Awarding to GLJ damages for infringement of the '495 and '344 patents, including its lost profits, together with prejudgment interest on the amount awarded;

L. Awarding to GLJ three times its damages to compensate GLJ under 35 U.S.C. § 284;

M. Ordering, adjudging and decreeing that acts of infringement of MMT, Ad-Line, Goodview, Elram and Penguin as herein alleged warrant a finding that this is an exceptional case and awarding to GLJ its reasonable attorneys' fees under 35 U.S.C. § 285;

N. Awarding to GLJ its costs incurred in the prosecution of this action; and

O. Awarding to GLJ such other and further relief as the Court may deem just and proper.

JURY DEMAND

GLJ demands trial by jury of all issues in this action so triable.

Respectfully submitted,

GLJ, LLC

s/ Keith V. Rockey

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United States Patent [19]

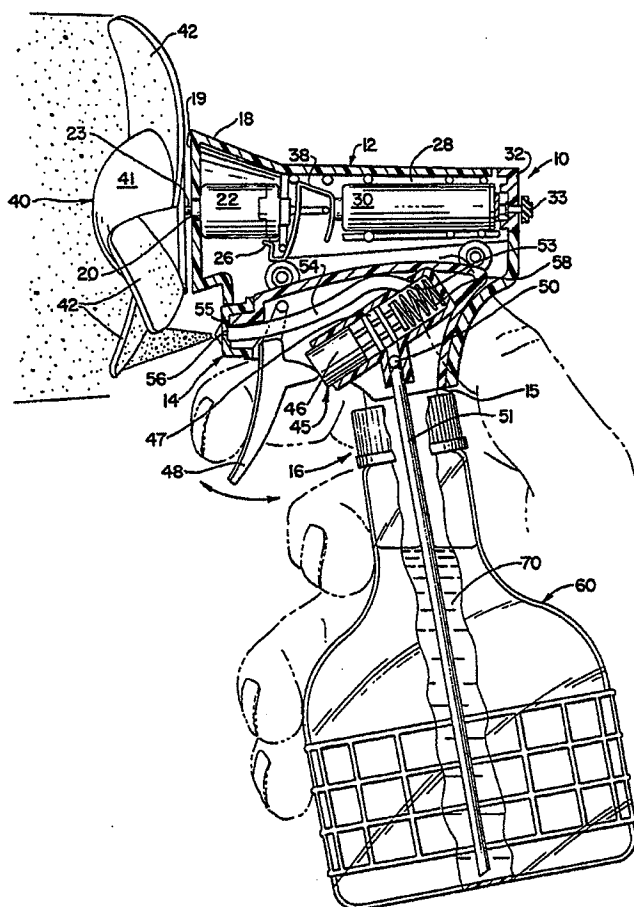
Steiner et al.

[11] **Patent Number:** 5,338,495[45] **Date of Patent:** Aug. 16, 1994[54] **PORTABLE MISTING FAN**[75] **Inventors:** Gregory A. Steiner, Lisle; Terry Arnieri, Addison, both of Ill.[73] **Assignee:** Innovative Design Enterprises, Addison, Ill.[21] **Appl. No.:** 136,914[22] **Filed:** Oct. 18, 1993[51] **Int. Cl.⁵** B01F 3/04[52] **U.S. Cl.** 261/28; 261/90;
239/214.25; 239/215; 239/222.11[58] **Field of Search** 261/28, 90; 239/214.25,
239/215, 222.11[56] **References Cited****U.S. PATENT DOCUMENTS**

2,079,117	5/1937	Hays	261/90
3,004,403	10/1961	Laporte	239/214.25
3,997,115	12/1976	Licudine	239/222.11
4,235,377	11/1980	Davis et al.	239/215
4,392,614	7/1983	Groth et al.	239/215
4,839,106	6/1989	Steiner	239/289

Primary Examiner—Tim Miles*Attorney, Agent, or Firm*—Basil E. Demeur; Alan B. Samlan[57] **ABSTRACT**

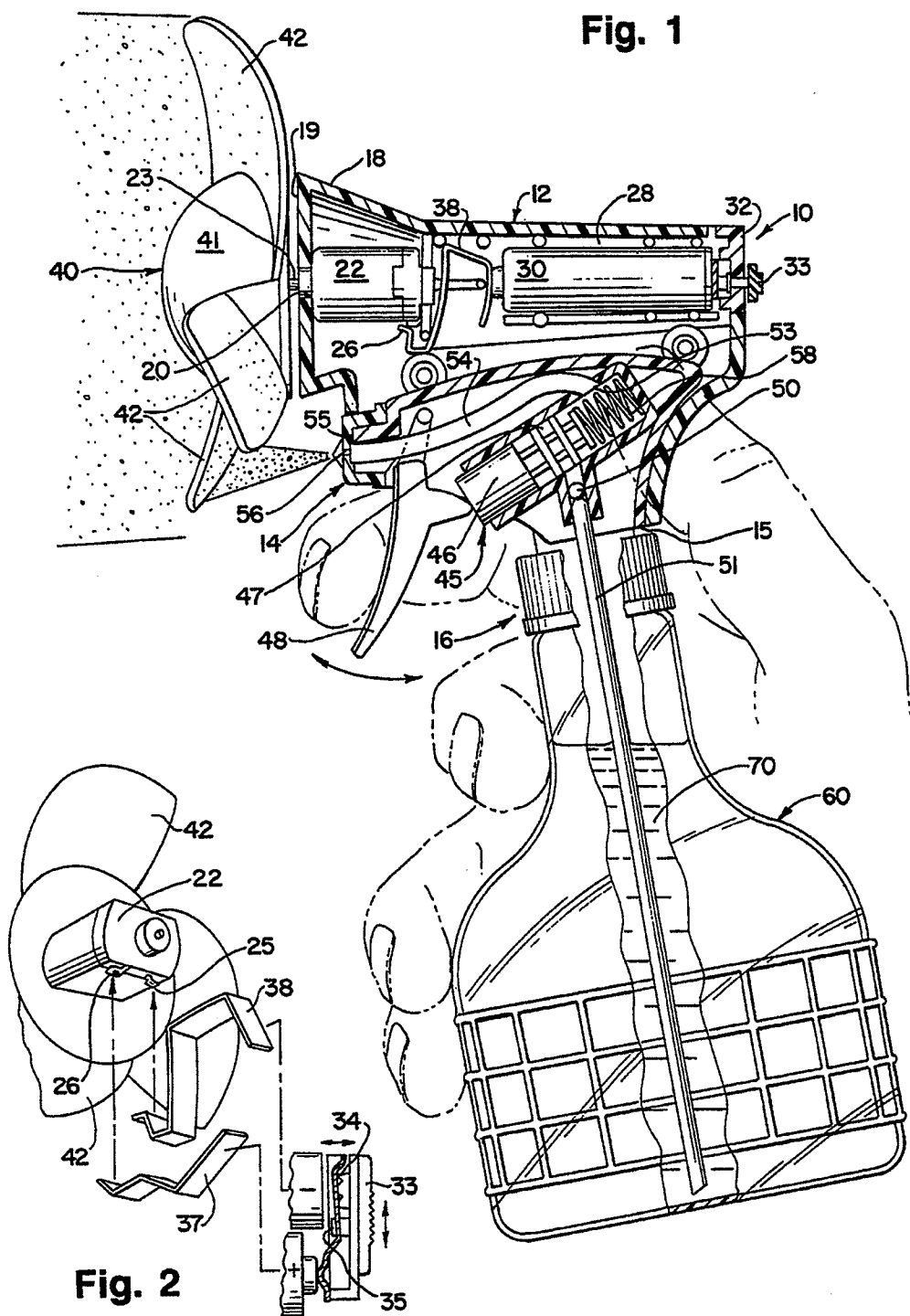
There is disclosed an integral portable fan and atomizing head unit forming a portable cooling unit adapted for direct attachment to a fluid reservoir such as a bottle, formed by a unit having an upper chamber and a lower chamber and a connector secured to the lower chamber. The upper chamber is provided with a motor and electrical means to activate and deactivate the motor and fan means including flexible fan blades mounted externally on the upper chamber and connected to the motor to turn in response to the activation of the motor. The lower chamber is provided with pump means and pump activation means and provided with an atomizing head in order to atomize fluid pumped up through the head. The connector is attached to the lower chamber and is adapted to disengageably engage a fluid reservoir directly, such as a bottle.

7 Claims, 1 Drawing Sheet**EXHIBIT A**

U.S. Patent

Aug. 16, 1994

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PORTABLE MISTING FAN**BACKGROUND OF THE INVENTION**

The present invention is directed to the art field relating to portable fans. Typically, such devices take the format of a flashlight assembly having a fan head mounted at the top end as opposed to a light, and wherein the casing contains a pair of batteries to electrically operate the fan. The typical use for such device is to evacuate odors, smoke, or other deleterious substances from the immediate environment of the user thereof. It is appreciated, however, that such portable fans are used for a variety of purposes.

The present invention recognizes as an additional use for such portable fans the provision of cooling capability for the operator where the operator counters hot or very warm conditions. Typical applications would be sun-bathers, or perhaps other persons finding themselves in a work environment which is warm or hot, and sporting activities

A typical portable cooling misting fan is described and claimed in U.S. Pat. No. 4,839,106, which is owned by the inventor herein. Pursuant to the description contained in the aforementioned patent, there is provided a portable misting fan which is in a self-contained unit, and is elongate in configuration such as to accommodate the provision therein of a fluid reservoir, and an extended neck portion having at the top end, a fan along with an atomizing head. As described therein, fluid is pumped from the fluid reservoir upwardly to the atomizing head which is located below the fan and as fluid is extracted from the atomizing head, the fan, which is located behind a baffle, blows the fluid onto the body of the operator. The present invention is an improvement thereof, in that various features have been changed in order to make the portable cooling fan and misting unit more efficient and therefore, more cooling in the effects realized therefrom.

Hence, the present invention relates to a portable misting fan which may be formed as an integral unit, and further includes a connector which permits the unit to be attached directly to a fluid reservoir, such as a typical bottle having a screw-threaded neck. In this format, the portable misting fan of the present invention has far greater portability and use since the entire cooling unit including the fan and atomizing head, and related accessories in order to cause the atomizer and fan to operate may be connected to any typical screw-threaded necked bottle and be useful for the purpose intended.

OBJECTS AND ADVANTAGES

It is therefore the principal object of the present invention to provide an improved portable misting fan which is formed as an integral unit consisting of an upper chamber to accommodate the fan assembly, including the motor and electrical means to operate the same, and a lower chamber which accommodates an atomizing head and activation means for activating the atomizing head, and a connector attached to the lower end portion of the lower chamber, to accommodate interconnection with a fluid reservoir such as a bottle or the like having a screw-threaded neck.

In conjunction with the foregoing object, it is a further object of the present invention to provide a portable misting fan of the type described wherein the fan unit is provided with flexible fan blades in order to

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minimize air resistance, and to minimize an injury to the user thereof, and also permits the use of a lighter weight and more efficient motor since the fan blade assembly is extremely light weight and easily rotatable.

In conjunction with the foregoing object, a further object of the present invention is to provide a portable misting fan of the type described wherein the atomizing head is located immediately below, but in horizontal alignment with the path of travel of the fan blades, such that upon atomization of the fluid from the fluid reservoir, the fluid is ejected into the path of travel of the fan blades thereby to further atomize the fluid in order to effect a greater cooling experience for the user.

A further object of the present invention is to provide a portable misting fan of the type described wherein the head unit is further provided with a connector consisting in the typical case of a screw-threaded cap, which permits the disengageable engagement of the entire head unit to a fluid reservoir such as a typical bottle having a threaded neck.

A further feature of the invention pertains to the particular arrangement of the parts whereby the above outline and additional operating features thereof are attained.

The invention both as to its organization and method of operation, together with further objects and advantages thereof will best be understood by reference to the following specification taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF DRAWINGS

FIG. 1 is a side elevational view, in cross-section, showing the entire head unit, the connector and a fluid reservoir to which the head unit is attached; and

FIG. 2 is a perspective view, partly blown apart, and partly in cross-section, showing the manner in which the electrical means activates the fan motor in order to operate the fan assembly.

SUMMARY OF THE INVENTION

In summary, the present invention provides a totally portable misting fan unit, which is accommodated as an entire unit including a connector suitable for attachment to a fluid reservoir, typically such as a bottle or other container having a threaded neck. As such, the portable misting fan unit may be attached to any fluid reservoir, and forms a very compact and efficient portable cooling unit for use by the operator thereof.

Furthermore, the present invention provides a portable misting fan unit wherein the fan assembly includes fan blades formed of a thin flexible foam material thereby to minimize the weight associated therewith, and also to prevent injury to the operator in the event that the fan blade should touch the operator when in use. Furthermore, the present invention contemplates that the atomizing head is located immediately below and in horizontal alignment with the path of movement of the fan blades, such that when fluid is ejected from the atomizing head, it comes into direct contact with the moving fan blades, such that the fluid is further atomized in order to break up the fluid particles to create a very fine mist in the area immediately forward of the fan blade. The net effect of the misting capability of the present invention is that when directed to the user's skin, the cooling effect achieved by the fan and is further enhanced since the fluid is further atomized and

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the effect upon the skin of the user is to enhance the cooling capability using the fan and the atomized fluid.

Furthermore, the present invention has greater portability and usability since the unit is created as a unit with a connector, and is designed to attach to any typical bottle having a threaded neck, whether the bottle be formed of glass or plastic. As such, the fluid reservoir is not integrally formed with the unit, and hence, the operator may connect the portable misting fan unit to any reservoir having a threaded neck of the proper thread size.

DETAILED DESCRIPTION OF THE DRAWINGS

With specific reference to FIG. 1 of the drawings, it will be observed that the present invention is formed by a head unit generally denoted by the numeral 10. The head unit 10 is comprised of an upper chamber 12 and a lower chamber 14. The lower chamber 14 has a lower end 15 which carries a connector 16 thereon. The mounting of the connector 16 to the lower end 15 of the lower chamber 14 is accommodated in a manner well-known in the art. The lower end 15 includes a flange extending downwardly therefrom, and the connector 16 has a central aperture therein, with the flange extending below the aperture, and having a sealing washer positioned below the connector aperture such that once the connector is screw-threadedly attached to a bottle, the connector aperture is sealed. Hence, it will be appreciated that the connector 16 is freely rotatable in its free-hanging position when not engaged to a screw-threaded bottle. As indicated, this arrangement is quite common and typical, and well-known in connection with sprayer bottles typically used by the consumer, especially the type which contain household cleaning solvents, waxes and the like.

Further, it will be appreciated that the connector 16 takes the form of a threaded cap, again much similar to the caps provided with plastic containers with household cleaners contained therein, and wherein the cap carries a trigger-squeezer assembly for extracting the cleaning solvent from the bottle and permitting the operator to apply it directly to a surface.

As more specifically shown in FIG. 1, the upper chamber 12 includes a forward chamber 18 which is provided with a front wall 19 and has a central aperture 20 formed therein. The forward chamber 18 carries a motor 22 which has an output shaft 23 at the forward end thereof, and a pair of electrical contact points 25 and 26 respectively at the rear end thereof (see FIG. 2).

The upper chamber 12 also is provided with a rear chamber 28 which carries therein the electrical power means in the form of batteries 30. The back end of the rear chamber 28 is open, thereby to accommodate the insertion and removal of the batteries 30 from the rear chamber 28, and is enclosed by means of a switch door 32 which slideably engages at the back end of the rear chamber 28 to enclose the same. The switch door 32 is provided with a slide switch 33 (see FIG. 2) which is interconnected with a pair of contacts 34 and 35 respectively which, in operation, will engage contact plates 37 and 38 respectively. It is contemplated that the operation of the slide switch 33 in conjunction with the contacts 34 and 35, and the contact plates 37 and 38 is well-known in the art, since such slide switches are used in many applications. The mechanics and operation of the switch assembly as described herein is well-known in the art and is not considered to be critical to the

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invention herein. Suffice it to say that in operation, when the slide switch 33 is moved to the on position, contact is established between the positive and negative terminals of the batteries 30 in order to energize the motor 22 and cause the rotational movement of the output shaft 23.

It will also be observed that at the forward end of the forward chamber 18 is a fan hub assembly 40 consisting of a fan hub 41 which, at its rear side, attaches to the output shaft 23. The fan hub 41 is provided with a plurality of fan blades 42 which are secured thereto such that once the output shaft 23 is energized to rotate, the fan hub 41 and associated fan blades 42 will similarly rotate.

In connection with the present invention, the fan blades 42 are formed of a very light weight, flexible foam material which are very unobtrusive with respect to a human. In other words, if the fan blades 42 are in their rotational mode and rotating at high speed, any touching engagement with a human will be non-obtrusive and non-harmful since the fan blades 42 are flexible and formed of a foam material.

The lower chamber 14 is shown to accommodate a piston type pump 45 which consists of a piston 46 carried within the confines of a piston chamber 47. The piston 46 is activated by means of a trigger 48 which is pivotally mounted to the lower chamber 14 in such a manner as to be easily manipulable by the operator, and as illustrated in FIG. 1. The piston chamber 47 has a fluid inlet port 49 which accommodates a fluid tube 51 which frictionally fits therein, and extends downwardly and beyond the lower confines of the connector cap 16. Further, the piston chamber 47 contains a fluid outlet port 53 to which is connected an outlet tube 54 and terminates in an atomizing head 55. The atomizing head 55 has an outlet port 56 through which the fluid is ejected in a manner well-known in the art. It will also be observed that the inlet port 49 is provided with a ball valve assembly 50 which operates in a manner well-known in the art. It will be appreciated that when the trigger 48 is activated to push the piston 46 inwardly, a vacuum is created to remove the ball from the ball seat in the manner known, thereby allowing fluid up the fluid tube 51 and into the chamber 47 which will then exit through the outlet tube 54 and pass through the atomizing head 55. Once again, the structure of the pump assembly as a whole is well-known in the art and is not considered to be the inventive subject matter of the present invention other than in combination with the head unit 10 as a whole.

It is contemplated that the pump, pump activation means including trigger, and means of drawing the fluid from the fluid reservoir into the pump chamber and out the outlet port 56 and the atomizing head 55 is also well-known in the art for the reason that many such assemblies exist for household use. The typical example of such assemblies is a household cleaner contained within a plastic bottle and provided with a trigger pump at the top end through which the operator may manipulate the pump trigger in order to cause fluid to be ejected from the fluid reservoir out of the outlet port, again in a manner well-known in the art.

With respect to the present invention, it will be observed that the atomizing head 55 and the outlet port 56 formed therein is located immediately below and in a horizontal alignment with the path of travel of the fan blades 42. As illustrated in FIG. 1, when the operator manipulates the trigger 48 to cause fluid from the fluid

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reservoir 60 to be drawn into the piston chamber 47 and out through the atomizing head 55, the fluid will be ejected immediately rearwardly of the fan blades, and when the fan blades 42 are in their operating rotational mode, the fluid will strike the rear of the fan blade and be further atomized. The effect of the atomization is that when the operator directs the fan and the atomizing mist on their body, the cooling effect is further enhanced.

It will be observed that the piston 46 and piston chamber 47 is spring loaded by means of the coil spring 58 in a manner typically known in the art such that the operator is permitted to effect several cycles of the pump in order to keep a steady stream of the fluid 70 from the fluid reservoir 60 coming up through the fluid tube 51 and exiting through the fluid port 56.

It will be observed also that the fluid reservoir 60 is in the form of a bottle which may be a typical plastic bottle of the type having a screw-threaded head. In this manner, the connector 16 is similarly in the form of a typical plastic cap which has internal threads formed therein, the entire head unit 10 may be easily disengaged from any bottle reservoir 60, and reattached to any other bottle having a threaded neck portion. Further, since the connector 16 is fitted onto the flange hanging from the lower chamber 14 in the manner previously indicated, the entire head unit 10 is rotatable relative to the connector 16, once the connector is screw threadedly engaged onto the fluid bottle reservoir 60.

It will be appreciated, therefore, that the entire portable misting fan of the present invention including the atomizing head and fan assembly is carried on a single head unit which is integrally formed, and further includes a connector associated therewith such that the entire unit may be disengaged from any bottle and re-engaged to any other bottle having a screw threaded neck. Further, since the atomizing head is now located immediately rearwardly of the path of travel of the fan blades 42, the fluid exiting from the fluid port 56 will exit and strike the fan blades 42 as the same rotate to effect a fine mist or further atomizing of the fluid such that the mist, when directed at the operator's body, will have a very cooling effect.

As previously indicated, the fan blades 42 are formed of a flexible foam material such that they are very light weight, and unobtrusive and non-harmful to a human even when in striking contract with the human body. A further beneficial effect of providing fan blades which are formed of a foam material is the fact that the motor 22 may be a light weight motor since it does not have to push a heavy load in rotational fashion. As such, a lower torque motor may be employed in the device, which also requires less current to operate. This will result in a longer life for the batteries 30, and in total, require lower cost in order to manufacture and maintain the operational characteristics of the device.

It will therefore be appreciated while there has been described what is at present considered to be the preferred embodiment of the invention, it will be understood that various modifications may be made therein and it is intended to cover in the appended claims all such modifications as fall within the true spirit and scope of the invention.

We claim:

1. An integral portable fan and atomizing head unit forming a portable cooling unit, adapted for direct attachment to a fluid reservoir of the type having connection means for accepting the connection thereto of the cooling unit, comprising in combination,

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a head unit formed by an upper chamber and a lower chamber and having a connector secured to said lower chamber,

said upper chamber provided with a motor and electrical means to activate and deactivate said motor, and fan means including flexible fan blades mounted externally on said upper chamber and connected to said motor to turn in response to the activation of said motor,

said lower chamber provided with pump means and pump activation means carried therein and provided with an atomizing head in fluid communication with said pump means and pump activation means,

said atomizing head being positioned below said upper chamber and in direct horizontal alignment with said fan means,

said connector on said lower chamber being adapted to disengageably engage the connection means of the fluid reservoir,

said upper chamber, lower chamber and connector formed as an integral head unit,

whereby said head unit may be disengageably engaged to a fluid reservoir which provides a source of fluid and said pump means may be activated to expel a fluid in the path of the fan means when the fan means is simultaneously activated in response to the activation of said motor thereby to provide a portable cooling unit.

2. The portable cooling unit as set forth in claim 1 above, wherein said head unit is disengageably engaged to the fluid reservoir thereby to be transferrable to an alternate fluid reservoir having connection means associated therewith.

3. The portable cooling unit as set forth in claim 1 above, wherein said electrical means comprises a pair of positive and negative contacts, said positive and negative contacts being in contact with said motor, an on/off switch, and batteries interposed between said switch and said positive and negative contacts thereby to provide electrical energy to said motor when said switch is manipulated to the on position.

4. The portable cooling unit as set forth in claim 3 above, wherein said pump means comprises a spring-loaded piston carried within said lower chamber, said lower chamber further provided with a first fluid entry port which, in use, is in fluid communication with the fluid in the fluid reservoir, and a second fluid exit port formed in said lower chamber, said fluid exit port being positioned below said upper chamber and in horizontal alignment with said fan means, whereby fluid expelled by said pump through said fluid exit port will strike said fan means thereby atomizing the expelled fluid.

5. The portable cooling unit as set forth in claim 4 above, wherein said fan means comprises a fan hub connected to said motor by a motor shaft, and a plurality of flexible fan blades mounted on said fan hub adapted to travel in a circular path.

6. The portable cooling unit as set forth in claim 5 above, wherein said fluid exit port is positioned to be in horizontal alignment with the circular path of travel of said flexible fan blades, whereby fluid expelled from said fluid exit port will strike said flexible fan blades when said motor is electrically activated to rotate said fan hub and atomize the fluid.

7. The portable cooling unit as set forth in claim 6 above, wherein said connector mounted on said lower chamber comprises a cap provided with screw threads, and the fluid reservoir comprises a bottle head having a screw-threaded neck forming the connection means thereof, whereby said head unit may be screw threadedly mounted on a bottle of the type having a screw-threaded neck thereby to form a portable cooling unit.

* * * * *



US005843344A

United States Patent [19]
Junkel et al.

[11] **Patent Number:** **5,843,344**
 [45] **Date of Patent:** **Dec. 1, 1998**

[54] **PORTABLE FAN AND COMBINATION FAN
 AND SPRAY MISTING DEVICE**

[75] Inventors: **Eric E. Junkel**, Des Plaines; **Lee
 Radtke**, Lake Zurich; **Linda M. Usher**,
 Chicago, all of Ill.

[73] Assignee: **Circulair, Inc.**, Niles, Ill.

[21] Appl. No.: **808,402**

[22] Filed: **Feb. 28, 1997**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 516,388, Aug. 17, 1995,
 Pat. No. 5,620,633.

[51] **Int. Cl.**⁶ **B01F 3/04**

[52] **U.S. Cl.** **261/28; 239/222.11; 239/289;
 261/78.2; 261/89**

[58] **Field of Search** **239/77, 289, 222.11,
 239/351, 355, 600; 261/28, 78.2, 89, 90**

[56] References Cited

U.S. PATENT DOCUMENTS

D. 178,144 6/1956 Miller .
 D. 220,246 3/1971 Pacelli .
 D. 264,181 5/1982 Booso .
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Primary Examiner—C. Scott Bushey

Attorney, Agent, or Firm—Gifford, Krass, Groh, Sprinkle,
 Patmore, Anderson & Citkowski, P.C.

[57] ABSTRACT

A combination portable fan and spray misting device for creating a cooling atomized mist spray. The fan includes an elongated body portion and a fan blade head portion which is attached in an upwardly and angled fashion relative to the body portion and which further includes a rotatable fan blade unit. The spray misting device further includes a body containing a volume of a liquid and a spray applicator secured atop said body and capable of issuing an atomized fluid mist spray of the liquid in a direction from the rear of and both above and through the rotating fan blade unit to further cool, atomize and distribute the spray in a desired application.

15 Claims, 7 Drawing Sheets

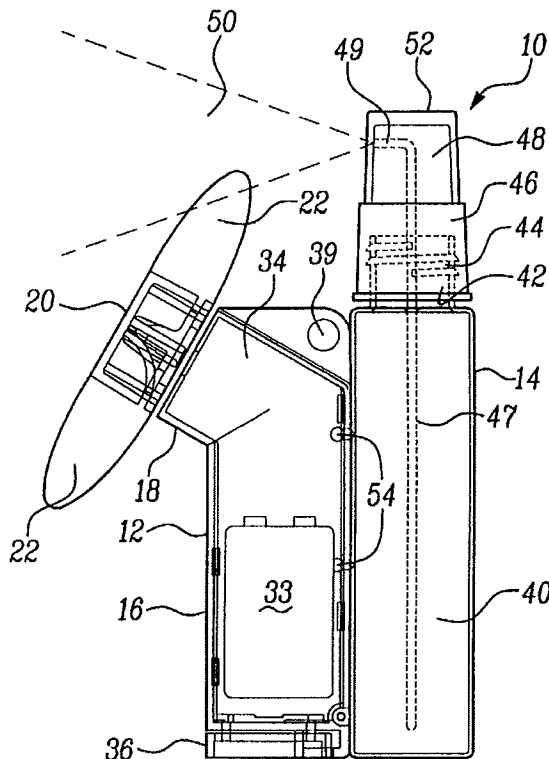


EXHIBIT B

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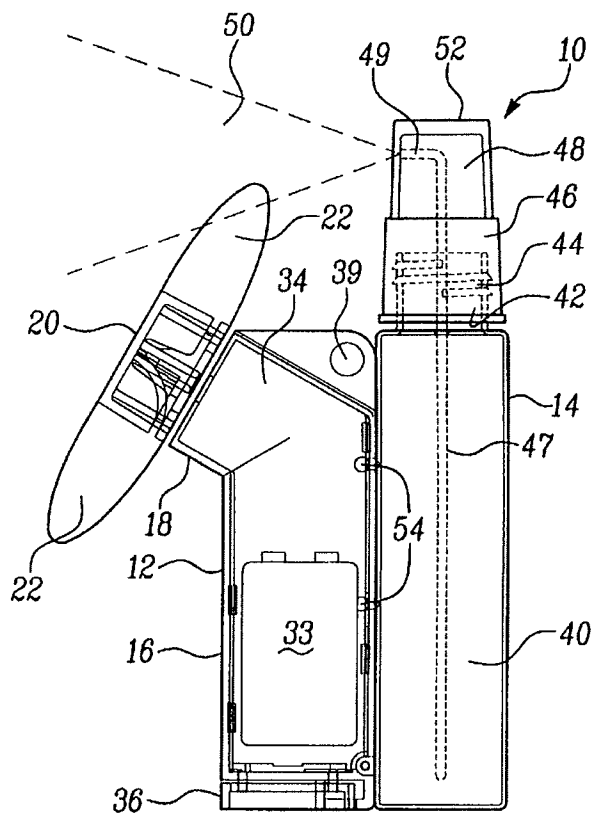


Fig-1

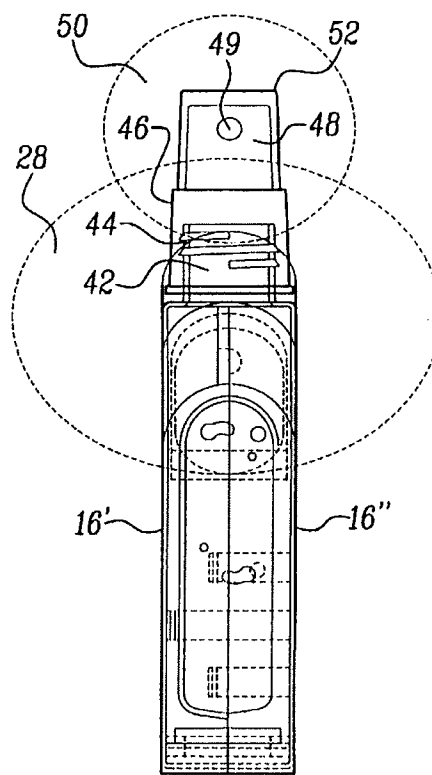


Fig-2

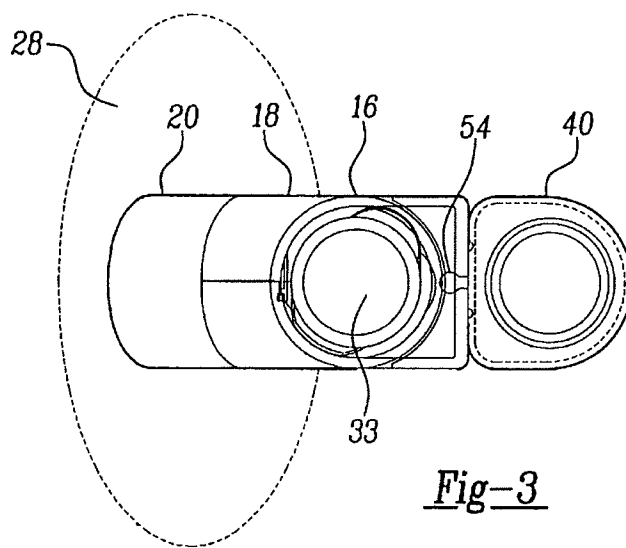


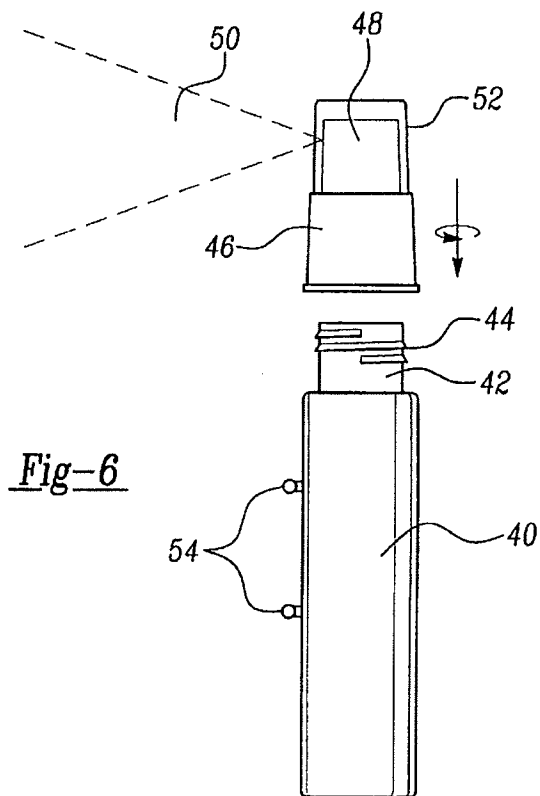
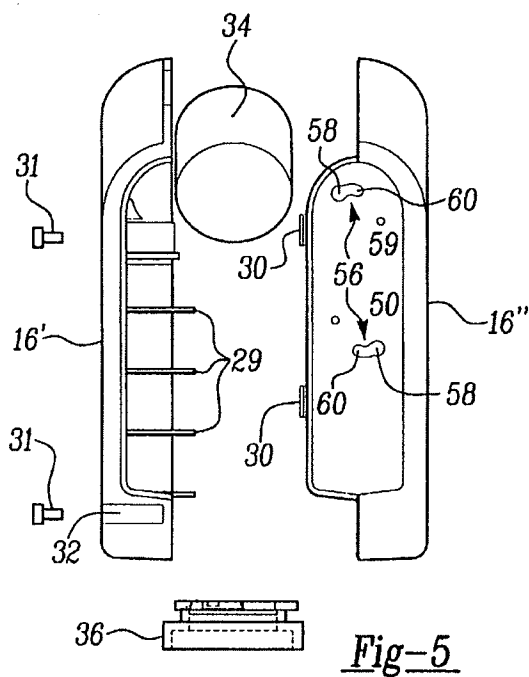
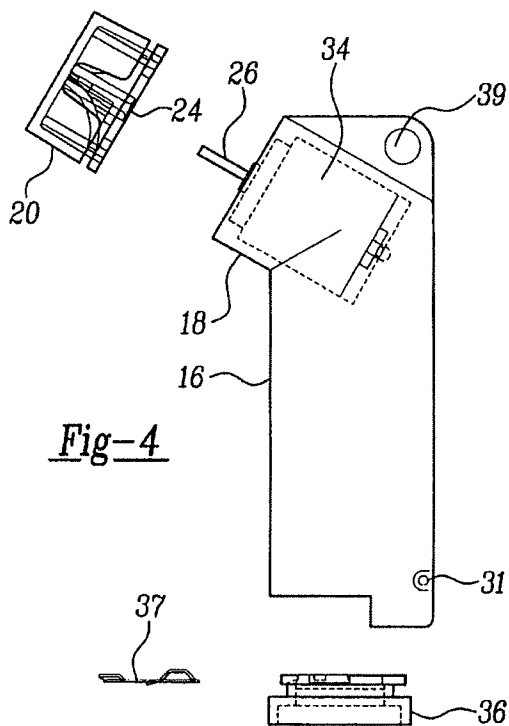
Fig-3

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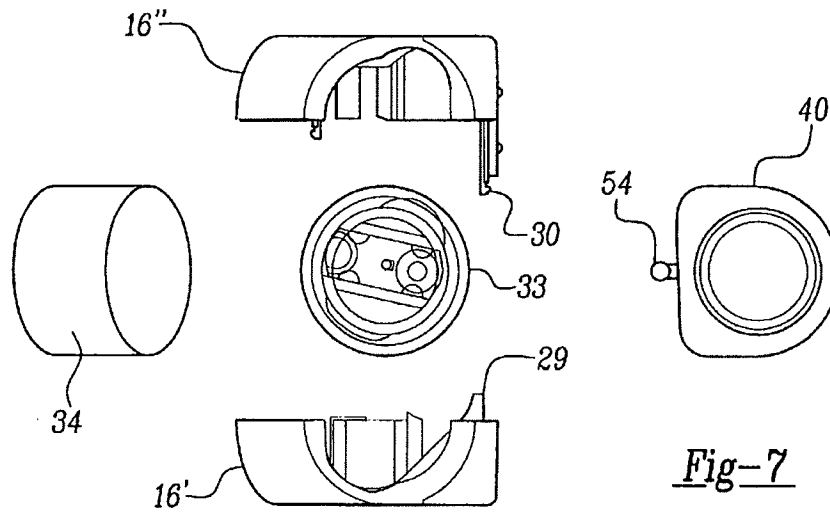


Fig-7

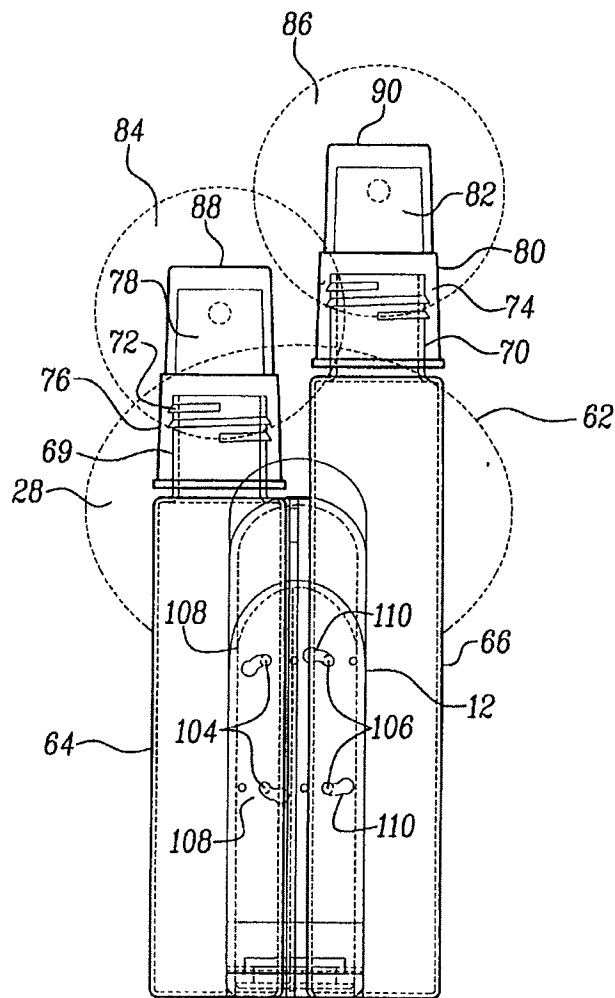


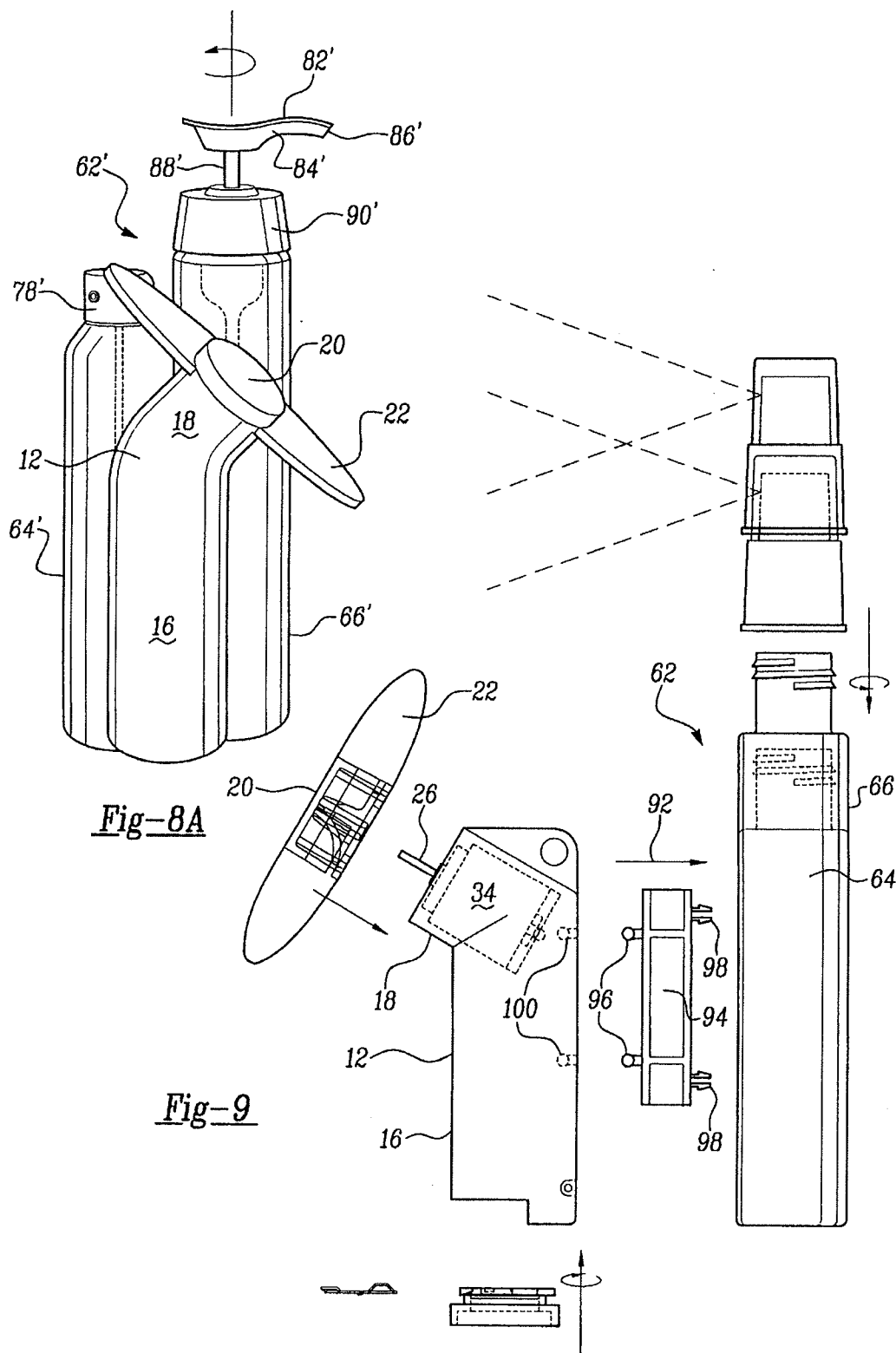
Fig-8

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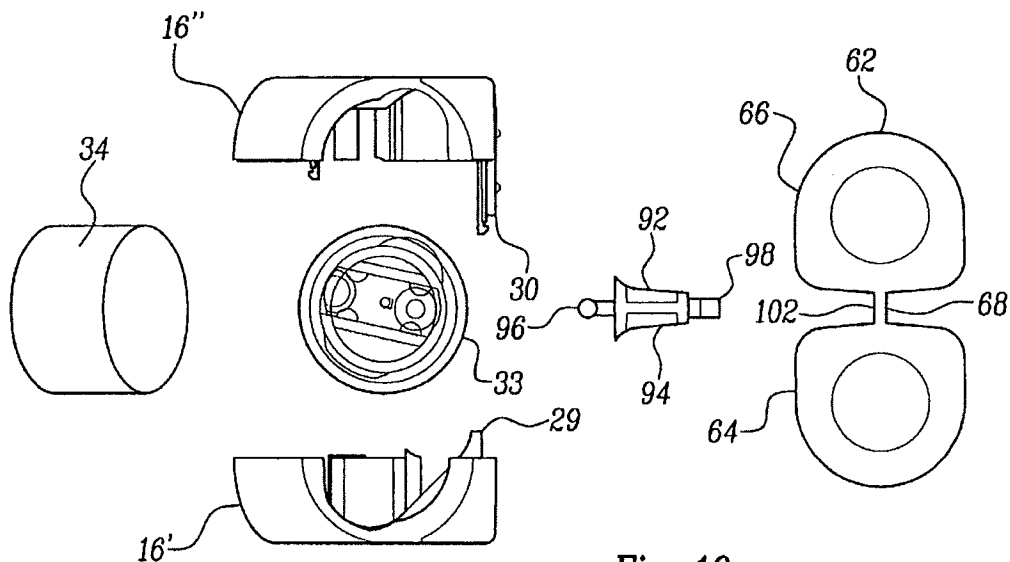


Fig-10

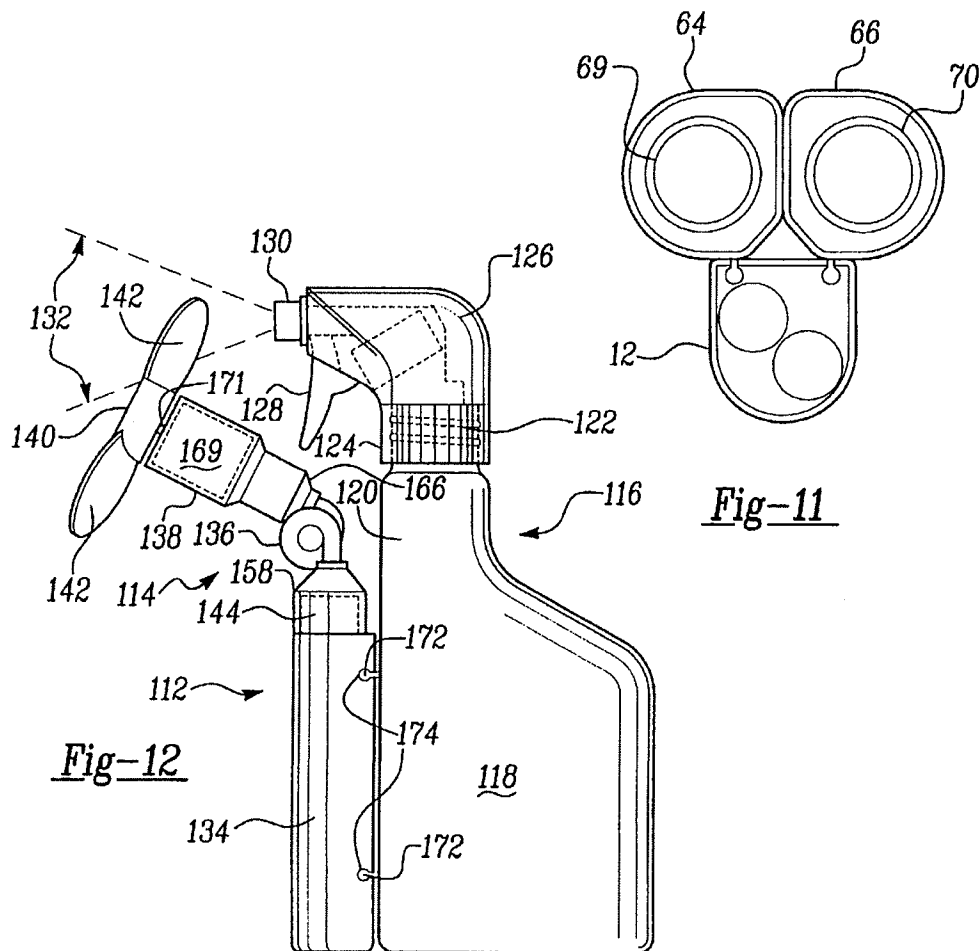


Fig-11

Fig-12

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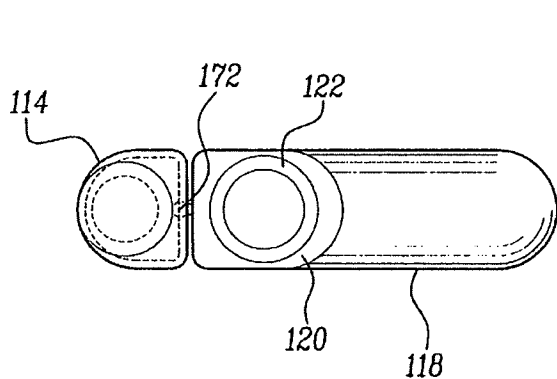


Fig-13

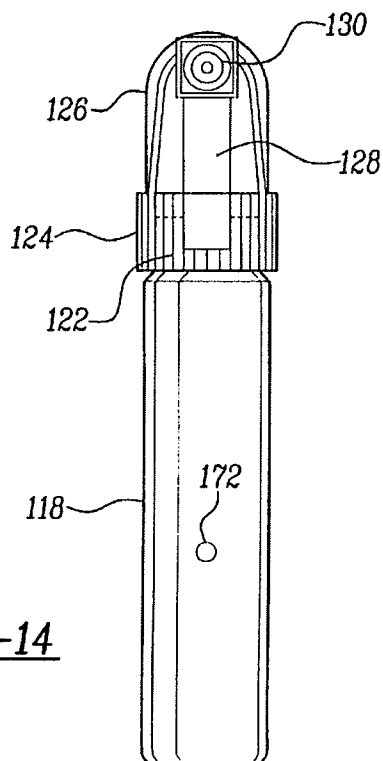


Fig-14

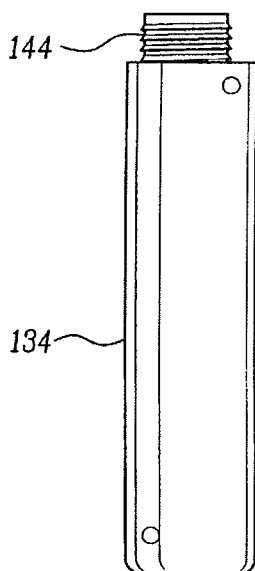


Fig-15

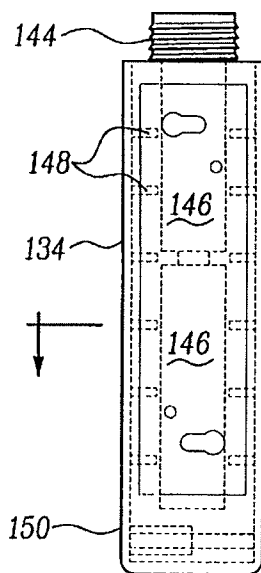


Fig-16

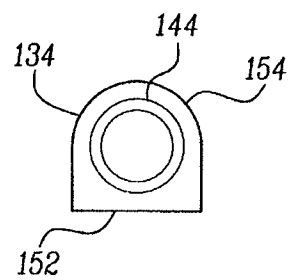


Fig-17

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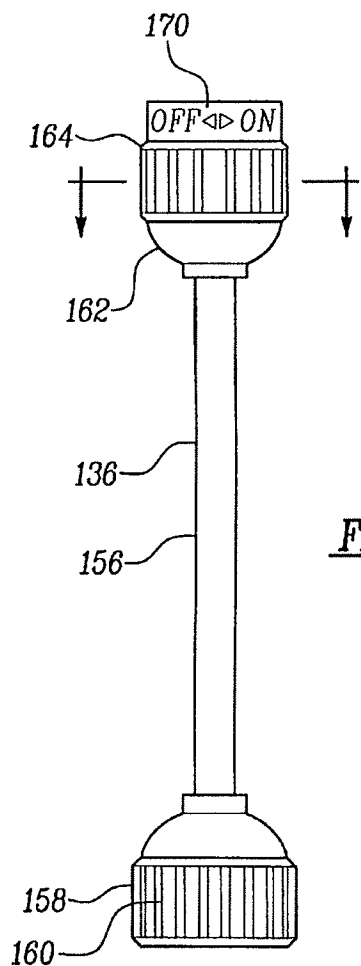


Fig-18

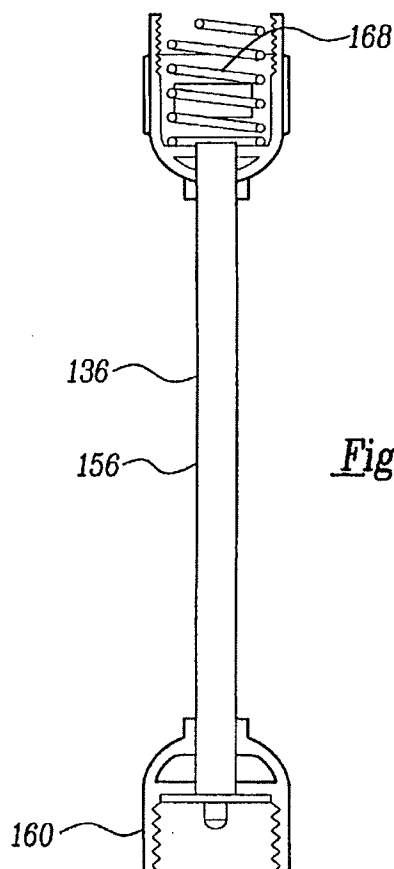


Fig-19

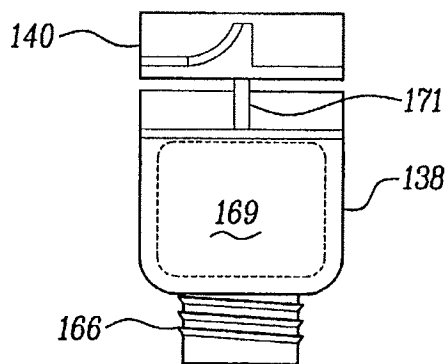


Fig-20

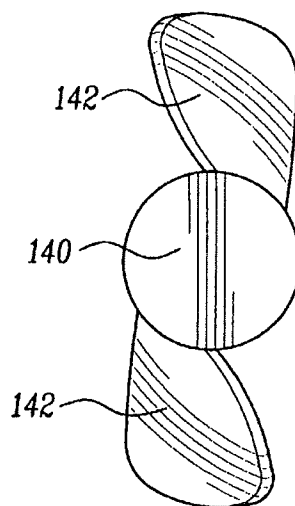


Fig-21

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PORTABLE FAN AND COMBINATION FAN AND SPRAY MISTING DEVICE

CROSS-REFERENCE TO RELATED APPLICATIONS

The present application is a continuation-in-part of application U.S. Ser. No. 08/516,388, filed Aug. 17, 1995, issued Apr. 15, 1997 as U.S. Pat. No. 5,620,633 for a Spray Misting Device for use with a Portable-Sized Fan.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to misting devices and, more specifically, to a novel portable fan and combination fan and spray misting device for producing a cooling atomized mist spray.

2. Description of the Prior Art

Portable cooling and misting devices which are used by sunbathers and others involved in athletic activities are fairly well known in the art. The concept of such devices is to provide a cooling current of air, either alone or in combination with an atomized liquid mist, such as water, to combat the elements of heat and dehydration attendant with athletic activities and/or prolonged exposure to the sun.

Copending application U.S. Ser. No. 08/516,388, now U.S. Pat. No. 5,620,633 discloses a spray misting device for use with a portable-sized fan for creating a cooling atomized mist spray which includes a battery powered stand alone fan device having a predetermined outline and thickness with a front and a rear and which encloses a fan blade unit. The spray misting device includes a body with a hollow interior which is capable of holding a predetermined volume of liquid and an applicator for providing an atomized mist spray of the liquid. A clip assembly is provided for detachably securing the spray misting body to the rear of the fan unit so that the applicator is located in proximity to the fan blade unit. The applicator generates an atomized mist spray which is delivered from above and in a direction of the fan blade unit which creates a current of air to cool the mist spray and to deliver it to a user thereof. The device is capable of being used as a combination fan and misting device or as either a misting device or fan separately as is desired by the user.

U.S. Design Pat. No. 349,570, issued to Radtke, Jr., discloses a portable electric powered fan which is capable of being easily carried on a person and which is battery powered for delivering a cooling stream of air at any remote location without the need for cords or electrical outlets. U.S. Pat. No. 5,338,495, issued to Steiner et al., teaches a portable misting fan device having an integral portable fan and atomizing head unit which includes electrical power means for operating the fan unit and which forms a portable cooling unit. The head unit is attached by a screw-type connector to a threaded neck bottle commonly used with piston sprayers. A trigger is positioned upon the head unit and, upon being depressed, withdraws fluid from the bottle through a tube extending downwardly from the head unit into the bottle and discharges the fluid toward the rear lower faces of the rotating blades of the fan blade unit where they impact against the forwardly curved faces and are subsequently dispersed in a mostly forward direction.

SUMMARY OF THE PRESENT INVENTION

The present invention is a novel portable fan and combination fan and spray misting device for creating a cooled and

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atomized spray mist in which the fan includes an elongated body portion and a rotating fan blade head portion extending upwardly and in an angled fashion relative to the body portion. The spray misting device has a likewise elongated and liquid carrying body and an applicator means including a nozzle for issuing the liquid in an atomized mist spray. In each of the preferred embodiments, the elongated fan body is releasably secured to a front face of the spray misting device body so that the nozzle is positioned above the fan elongated body and rearwardly of the upwardly angled fan blade head unit.

According to a first preferred embodiment, the portable fan is formed as a generally elongated body and the spray misting device as a single elongated body having a flattened frontal face and a push button nozzle at a top end. At least a first and a second bulbous shaped tab projects forwardly from the frontal face of the misting device and both are received within like configured apertures in an associated rear face of the fan body for detachably securing the fan body in place.

In a further preferred embodiment, the misting device is provided as first and second elongated fluid carrying chambers which are secured together along a substantially narrow and elongated webbed connection. In one variant, bulbous shaped projecting tabs extend from the front faces of the fluid carrying chambers and are secured within rotatably configured slotted members in a rear face of the fan body. The fan body is rotated slightly with respect to the dual fluid carrying chambers so that the tab portions are rotated to a slightly narrowed portion of the slotted members to lock the fan in place. According to a further variant, an intermediate clip portion having both forwardly and rearwardly projecting connections which secure respectively within apertures formed in the webbed connection of the fluid carrying chambers and apertures in an associated rear face of the fan body.

According to a yet further preferred embodiment, the spray misting device is constructed as a conventional spray bottle with a relatively large body and a spray head secured over an opening located at a top of the body by a threaded and rotating collar. The portable fan is constructed of a substantially cylindrical and elongated body which houses a portable electrical supply, such as a pair of batteries, and further includes a flexible elongate neck which terminates in a fixedly repositionable fan blade head unit. The body of the portable fan includes recessed portions which are capable of being engaged by projecting tabs extending from the spray bottle body for securing to the fan in such a manner as to permit the fan blade head unit to be positionable and repositionable in an upwardly angled fashion and is capable of being used together with spray misting device or separately as is desired.

BRIEF DESCRIPTION OF THE DRAWINGS

Reference is now made to the attached drawings, when read in combination with the following specification, wherein like reference numerals refer to like parts throughout the several views, and in which:

FIG. 1 is a side view of the combination portable fan and spray misting device according to a first preferred embodiment of the present invention;

FIG. 2 is a rear view of the combination portable fan and misting device illustrated in FIG. 1 and illustrating a diametrical overlap of the paths of the atomized spray mist and angularly oriented and rotating fan blade head portion;

FIG. 3 is a bottom view of the combination portable fan and misting device according to the embodiment illustrated in FIGS. 1 and 2;

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FIG. 4 is a side exploded view of the portable fan according to the first preferred embodiment;

FIG. 5 is a rear exploded view of the portable fan as illustrated in FIG. 4;

FIG. 6 is a side exploded view similar to that shown in FIG. 4 and further illustrating the spray misting device and the releasably engaging means for securing the misting device to the portable fan;

FIG. 7 is a bottom exploded view of the portable fan and spray misting device illustrated in FIG. 6;

FIG. 8 is a rear view of the combination portable fan and dual fluid enclosure spray misting device according to a further preferred embodiment of the present invention;

FIG. 8a is a modification of the combination portable fan and dual fluid enclosure device according to the present invention.

FIG. 9 is a side exploded view similar to that illustrated in FIG. 6 and showing the combination portable fan and spray misting device according to the embodiment of FIG. 8;

FIG. 10 is a bottom exploded view of the fan and spray misting device of FIG. 8 and 9;

FIG. 11 is a top view of an alternative variant of the double spray misting bottle design;

FIG. 12 is a side view of the combination portable fan and spray misting device according to a still further preferred embodiment of the present invention;

FIG. 13 is a top view of the further preferred embodiment according to FIG. 12 illustrated without the sprayer head or fan blade unit;

FIG. 14 is a frontal view the spray misting device according to the further preferred embodiment of FIG. 12;

FIG. 15 is a side view of a body of the portable fan enclosure according to the further preferred embodiment of FIG. 12;

FIG. 16 is a view similar to that illustrated in FIG. 15 and further showing in phantom an internal view of the portable fan body;

FIG. 17 is a top view of the portable fan enclosure illustrated in FIGS. 15 and 16;

FIG. 18 is a view of the intermediate flexible neck portion which is attachable to the portable fan body as illustrated in FIG. 12 according to the further preferred embodiment of the present invention;

FIG. 19 is a view similar to that shown in FIG. 18 and further illustrating in phantom first and second attachment ends of the intermediate flexible neck portion according to the further preferred embodiment of the present invention;

FIG. 20 is a view of a fan motor hub forming a part of the fan blade head portion according to the further preferred embodiment of the present invention; and

FIG. 21 is a frontal view of a fan blade head unit which is rotatably engaged with the head portion according to the further preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to FIGS. 1-3, a combination fan and spray misting device 10 is shown according to a first preferred embodiment of the present invention and includes a fan portion 12 and a misting device portion 14. Both the fan portion 12 and misting device portion 14 are preferably constructed of a durable plastic or the like and, as is also

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illustrated in FIGS. 4, 5 and 7, the fan portion 12 includes an elongated body portion 16 and an integrally formed and upwardly angularly extending head portion 18 to which is attached a rotating fan blade unit 20 incorporating a plurality of individual fan blades 22.

Referring specifically to FIG. 4, the body of the fan blade unit 20 includes a longitudinally extending apertured portion, indicated as a bore 24 in the impeller hub, which receives a rotating shaft portion 26 extending from the upwardly angularly extending head portion 18. The individual fan blades 22 are further preferably constructed of a smooth edged and flexible rubber or plastic material and, as is best illustrated in FIGS. 2 and 3, define a first diametrical blade path 28.

According to one preferred embodiment, the fan's elongated body portion 16 is illustrated in exploded view in FIGS. 5 and 7 and includes a first elongated half portion 16' and a second elongated half portion 16". The half portions 16' and 16" are assembleable together in alignment by a plurality of ribbed portions 29 (FIG. 5) extending from the half portion 16' which align with respective apertured portions in the half 16". The half portion 16" includes gripping tabs 30 which facilitate assembly and disassembly of the portions 16' and 16" and, as is best shown in FIGS. 4 and 5, fasteners 31 are insertable within apertures 32 formed in the half portion 16' and engage the half portion 16" to secure the halves together. Upon assembly, the halves 16' and 16" define a cavity therebetween sufficient for holding a single or double conventional "AA" sized alkaline batteries 33.

The fan 12 also includes a portable electric motor 34 which is situated within the upwardly angled head portion 18 and in electrical communication with the batteries 33. A base of the rotating shaft portion 26 is mounted within the electric motor 34 and rotatably drives the shaft 26 which extends from the angled head portion 18. As is best shown in FIGS. 4 and 5, a cap portion 36 is securable to an open bottom of the fan body 16 and closes the body 16 once the batteries are inserted. The cap portion 36 preferably includes an internally configured spring contact portion 37 and is rotated so that the contact portion 37 is aligned in position with a pair of terminals to engage the internally carried battery in continuous electrical contact with the portable electric motor 34.

An on/off button for activating and deactivating the portable fan may preferably be incorporated into the bottom engaging cap portion 36 and is engaged by rotating the cap portion from a first off position to a second on position as is evident by the arrow 38 in FIG. 1. An alternatively shaped on/off button (not shown) or the like can be emplaced anywhere upon the fan body which is easily reachable by a user and is in electrical communication with the battery and electric motor attachment as is desired. As is best seen in FIGS. 1 and 4, an aperture 39 may be formed within an upper corner of the fan body 16 and is particularly useful for receiving a rope, chain or the like (not shown) for permitting the fan device 12 to be suspended around a wearers neck, with or without attachment of the misting device 14 as will be subsequently described.

The misting device portion 14 includes an elongated and internally hollowed body 40 and an open neck portion 42 at an upper end thereof. The neck portion 42 is externally threaded at 44 and receives a screw cap 46 with interengaging and internally placed threads (not shown) so as to secure the cap 46 atop the misting device 14. A fluid withdrawing tube portion 47 or the like extends downwardly from the screw cap 46 into the open interior of the body 40 and acts

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to withdraw a desired fluid held within the body, such as water, suntan lotion and the like, upon the downward depression of a push button portion 48 mounted atop the screw cap 46. A passageway 49 is formed in the portion 48 in communication with the withdrawing tube portion 47 and, upon downward depression of the button portion 48, distributes an atomized mist spray along a second diametrical path 50 which, as illustrated in FIG. 2, overlaps with the first diametrical blade path 28 of the fan blades 22.

A non-use and storage cap portion 52 is releasably securable over the push button portion 48 and the body portion 40 of the misting device 14 further includes a pair of substantially bulbous end shaped and forwardly projecting portions 54 which are vertically spaced apart along an associated forward vertical face of the misting device body 40 and which engage within associating negative apertured portions formed in a rear face of the fan body 16. The bulbous end shaped portions 54 are illustrated in operative engagement in FIGS. 1-3 and it is evident that the contours of the apertures as subsequently described are such that the bulbous shaped portions are twisted and snapped into place to mount the misting device to the rear of the fan body.

Referring to FIG. 5, the primary means for attaching the misting device 14 to the fan portion 12 is provided by a pair of rotatably configured and slotted members 56 formed on a substantially flattened and rear face of the fan body 12. Each of the slotted members 56 includes a first width portion 58 through which is inserted the bulbous portions 54, a second narrowed width portion 59 and a third further narrowed portion 60 so that, upon alignment of the bulbous end shaped portions extending from the misting device 14, the fan device 12 is rotated to engage the interconnecting neck portions of the bulbous end portions 54 within the progressively constructed and narrowed width portions and to thereby releasably engage the misting device to the fan body.

Referring now to FIGS. 8-11, a combination portable fan and misting spray device 62 is illustrated according to a yet further preferred embodiment of the present invention and incorporates all of the operative features of the fan body 12 substantially as described with reference to FIGS. 1-7. The embodiment 62 of FIGS. 8-11 differs from the initially disclosed embodiment in that the single fluid carrying misting device container is replaced by a pair of first 64 and second 66 fluid carrying containers which extend in a generally elongated and parallel manner and which are interconnected by an elongated webbed connection 68.

As is best illustrated in FIG. 8, the first fluid carrying container 64 terminates in a neck portion 69 and the second fluid carrying container 66 in a likewise neck portion 70 similarly as disclosed in the misting device 14 according to FIGS. 1-7. Interengaging threads 72 are provided on the open neck portion 69 and similar threads 74 on the neck portion 70 to facilitate the screw attachment of screw caps. Specifically, a first screw cap 76 upon which is mounted a first push button portion 78 is attached to the first fluid carrying container 64 and a second screw cap 80 upon which is mounted a second push button portion 82 is attached to the second fluid carrying container 66.

The push button portions 78 and 82 are operable either separately or in tandem to create first and second diametrical spray patterns 84 and 86, respectively, in relationship to the diametrical blade path 28 of the fan blade portion 20 as previously described. The fluid carrying containers are otherwise actuable similarly as described in the first preferred embodiment and the atomized mist spray, upon contacting the turbulent air currents generated by the fan blade unit 20,

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create a cooled and further atomized mist spray for any desired application. Non-use and storage cap portions 88 and 90 are provided and attach over the push button portions 78 and 82 similarly as previously described.

Referring to FIG. 8a, a modification 62' is shown of the combination portable fan and spray misting device and differs from the embodiment 62 in that a first 64' of the fluid carrying containers is similar to the container 64 previously described having a spray pump 78' and a second 66' of the containers is provided which is taller and includes a lotion applicator 82'. The applicator 82' includes a contoured head portion 84' with an applying nozzle 86' and a downwardly depressible tube 88' secured within a rotatable locking collar 96'. The modification 62' of the further preferred embodiment is intended to permit the user to apply a water or similar cooling fluid in an atomized manner within the fluid carrying container 64' while further permitting a suntan lotion, moisturizing cream or similar conventional viscous substance to be contained within the container 66'. The applicator 82' is further capable of being rotated in the direction indicated by the arrow to enable the user to apply the lotion to the side of the fan blade unit 20.

As is best illustrated in FIGS. 9 and 10, an intermediate clip portion 92 may be provided according to one further preferred variant for releasably securing the dual spray bottle attachments 64 and 66 to the portable fan device 12. The clip portion 92 includes an elongated body portion 94 as is illustrated in side and cross sectional view in FIGS. 9 and 10, respectively, and further includes a plurality of bulbous end shaped and forwardly extending portions 96 as well as first and second pairs of laterally deflectable engaging portions 98 extending rearwardly from the body portion 94. A pair of internally configured apertures 100 are formed in a rear face of the fan body 12 as shown in FIG. 9 and are aligned with the spacing between the bulbous end shaped portions 96 to permit the clip portion 92 to be snappingly engaged to the fan body 12. As is further shown in cross section according to FIG. 10, apertures (illustrated by aperture 102) may be formed in the webbed connection 68 in a like spaced apart manner to permit the pairs of laterally deflectable engaging portions to engage the misting bottle arrangement.

As is also shown in the frontal view partially in phantom, according to FIG. 8, a first pair of bulbous end shaped projecting portions is illustrated at 104 projecting from the first fluid carrying container 64 and a second pair of like shaped portions is illustrated at 106 projecting from the second fluid carrying container 66 each in similar fashion as described in the first preferred embodiment according to FIGS. 1-7. The portable fan 12 is illustrated substantially in phantom so that additional pairs of rotatably configured slot members 108 and 110 which correspond in arrangement with the bulbous end shaped portions 104 and 106 are illustrated and which permit the spray misting device to be rotatably and releasably engaged with the fan body in similar fashion as previously described. The further preferred embodiment of FIGS. 8-11 provides a useful two bottle construction to permit both the application of a greater volume of atomized spray as well as the ability to apply the spray at different degrees of inclination relative to the path of the rotating fan blades 22.

Referring now to FIG. 12, a combination fan and spray misting device 112 is illustrated according to the further preferred embodiment of the present invention and includes a portable fan body portion 114 and a misting device portion 116. The misting device 116 according to this further preferred embodiment is for the most part a well known spray

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device for applying such items as window cleaner, wood polishing liquid and the like and it is envisioned that any such commonly available spray misting device as is known in the art can be incorporated for use with the fan 114 as will be subsequently described.

The misting device portion 116 includes a body 118 which is internally hollowed and terminates in an upwardly extending and narrowed portion 120 which in turn terminates in an externally threaded neck portion 122. A rotatable screw cap 124 is attachable over the neck portion 122 of the body 118 and further includes a spray head portion 126 which is disposed above the body 118 of the misting device 116. A depressible trigger portion 128 is operatively connected to the spray head portion 126 and, upon being actuated, issues from a nozzle portion 130 a spray mist pattern 132 according to the desired fluid contents of the container body 116.

The portable fan body portion 114 includes an elongated body and battery carrying compartment 134, a generally upwardly extending and flexible/repositionable elongated neck portion 136, a fan head portion 138 and a rotating blade portion 140 upon which is arrayed a plurality of individual fan blades 142 (see also FIG. 21). The function of the specific components of the fan body portion 114 will now be explained with reference to the furthering FIGS. 15-21 as will now be described.

Specifically, with reference to FIGS. 15-17, the elongated body and battery carrying compartment 134 includes an elongated cylindrical and generally hollow portion which terminates in an upwardly extending and reduced diameter neck portion 144, the neck portion 144 including a plurality of externally arrayed threads for engaging the elongated and repositionable flexible neck portion 136 as will be subsequently described. As is illustrated in the phantom view of FIG. 16, a pair of batteries 146, ideally AA alkaline batteries, are held within the hollow interior cavity formed within the fan body 134 and are maintained in a centralized area of the body interior by a plurality of inwardly extending locator ribs 148 which are arranged at spaced apart locations along the height of the body interior. The batteries 146 are easily inserted axially through the neck portion 144 and are situated so as to be in electrical communication with the flexible neck portion 136 and are situated at a predetermined axial height by virtue of a spring electrical contact 150 positioned in a base of the body interior cavity. The contact 150 serves the dual purpose of completing an electrical circuit and exerting force against the batteries so that raised parts 151 hold their position and maintain good contact. As is also shown upon reference to FIG. 17, the body 134 of the portable fan device includes a flattened face 152 and a rounded face 154 for facilitating attachment to the spray bottle body 118.

Referring now to FIGS. 18 and 19, the elongated flexible and repositionable neck portion 136 includes an elongated member 156 which terminates in a first end in fan body attaching portion 158 and includes a rotatable collar portion 160 with internally positioned threads (not shown) which secures over the threads of the neck portion 144 of the fan body 134 to secure the elongated neck portion 144 to the body 134 of the fan. The elongated member 156 is preferably constructed of either a rubberized or plastic material and incorporates an internal deformable structure as is known in the art to facilitate fixed repositioning of the member 136 and further includes electrical communicating means which are operable to draw power from the batteries located in the body 134 and transmit it to the fan head portion 138.

The elongated member 156 terminates in a second end in a fan head attaching portion 162 and includes a further

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rotating collar 164. Referring to FIG. 20, the fan head portion 138 includes a reduced diameter neck portion 166 with externally placed threads which receives the rotating collar 164 to securely position the fan head 138 to the end of the elongated flexible neck portion 136. As is also shown upon reference to the phantom view of FIG. 19, a further coil spring 168 is positioned within an open interior of the attaching portion 162 and facilitates the electrical contact with the fan head portion 138. A portable electric motor 169 is incorporated into the fan head portion 138 as is illustrated in phantom and further includes a rotatably driven shaft portion 171 which supports the blade driving portion 140 as shown. As is also illustrated in FIG. 18, an on/off switch 170 is incorporated into the rotating collar assembly 164 and, upon a slight degree of rotative movement, selectively activates and deactivates the fan head portion 138.

Referring once again to FIGS. 12 and 13, a pair of bulbous end shaped portions 172 project forwardly from the body 118 of the spray bottle 116 and are received in like configured apertures 174 in associated spaced apart locations in a rear face of the fan elongated body 134. The portable fan assembly 114 is therefore attachable to the spray bottle 116 in a manner so as to permit the fan head portion to be repositionable relative to the spray applying head of the bottle and to optimize the application of the atomized mist 132. The fan assembly 114 is also capable of being used separately from the spray bottle 116 such as being placed in an upstanding position.

The present invention therefore discloses a novel combination portable fan and spray misting device which facilitates application of a cooled atomized mist spray for many applications. Additional embodiments will become apparent to those skilled in the art to which it pertains without deviating from the scope of the appended claims.

We claim:

1. A combination fan and spray misting device for creating a cooling atomized mist spray, comprising:

said fan including an elongated body portion and a head portion connected to said body portion and extending in an upwardly and angled manner relative to said body portion;

said head portion including a plurality of rotatable blade elements mounted thereto;

said misting device having a body containing a volume of a liquid and an applicator means located atop said body and including a nozzle for supplying said liquid in said atomized mist spray; and

releasable securing means for mounting said fan body to a front face of said misting device body so that said nozzle is positioned above said fan elongated body and rearwardly of said upwardly angled fan blade head portion;

whereby said atomized mist spray is cooled and distributed to a user by air currents generated by said fan head portion.

2. The combination fan and spray misting device according to claim 1, said fan further comprising an upwardly and angularly extending portion interconnecting with said elongated body portion, said fan blade head portion being rotatably secured to said angularly extending portion, said elongated body portion and upwardly extending portion being constructed of a durable plastic material.

3. The combination fan and spray misting device according to claim 1, said releasable securing means further comprising at least one pair of bulbous end shaped portions projecting forwardly from said body of said misting device

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and at least one pair of like configured apertures formed in an abutting face of said fan body and permitting said fan body to be snappingly engaged to said misting device.

4. The combination fan and spray misting device according to claim 1, said releasable securing means further comprising at least one pair of bulbous end shaped portions projecting forwardly from said body of said misting device, at least one pair of rotatably configured slotted members being formed in a likewise spaced apart manner upon an associated rear face of said fan body, said slotted members each further including a first width portion as wide as said bulbous end shaped portions, a second constricted second portion and a third width portion, said bulbous end shaped portions being inserted within said first width portions and lockingly engaging within said narrowed width second and third portions of said slotted members upon said misting device being rotatably engaged relative to said fan.

5. The combination fan and spray misting device according to claim 1, said releasable securing means further comprising an intermediate clip portion interconnecting said fan to said spray misting device, said clip portion including a pair of bulbous end shaped portions projecting forwardly and being received within like configured apertures formed in an associated face of said fan body, said clip portion further including a pair of deflectable and engaging portions extending rearwardly which engage additional apertures formed within said spray misting device.

6. The combination fan and spray misting device according to claim 1, said spray misting device further comprising a first fluid carrying container and a second fluid carrying container extending in a substantially parallel manner, an elongated webbed portion interconnecting said first and said second fluid carrying containers.

7. The combination fan and spray misting device according to claim 6, said spray misting device further comprising a first spray button portion positioned atop said first fluid carrying container and a second spray button portion positioned atop said second fluid carrying container at an equal or greater vertical position relative to said first spray button portion.

8. The combination fan and spray misting device according to claim 1, said fan elongated body portion further comprising an interior cavity for holding at least one portable battery and said fan blade head portion further including an electric motor in operative engagement with said battery and said fan further having an on/off switch for selectively activating and deactivating said fan.

9. The combination fan and spray misting device according to claim 1, said fan elongated body portion further

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comprising a first fan body half portion and a second fan body half portion, said half portions being assembled together along tabbed portions.

10. The combination fan and spray misting device according to claim 1, further comprising an elongated flexible and fixedly repositionable neck portion interconnecting said fan body portion and said fan blade head portion.

11. The combination fan and spray misting device according to claim 6, said spray misting device further comprising a first spray button portion positioned a top said first fluid carrying container and a second lotion applicator portion positioned atop said second fluid carrying at an equal or greater vertical position relative to said first spray button.

12. A portable fan for use with a spray misting attachment, the misting attachment including a body capable of holding a volume of liquid and a spray applicator located atop said body, said fan comprising:

an elongated body portion and a fan head portion connected to said body portion and extending in an upwardly and angled manner relative to said body portion, said head portion including a plurality of rotatable blade elements mounted thereto; and

releasable securing means arranged on said fan body for mounting said fan to the misting device so that said head portion is positioned forwardly of the spray applicator;

whereby an atomized mist spray produced by the spray applicator is cooled and distributed to a user by air currents generated by said fan head portion.

13. The portable fan as described in claim 12, said fan body further comprising an interiorly hollowed cavity, a battery power supply being incorporated within said elongated body portion, an electric battery likewise being incorporated within said body portion in a location relative to said fan head portion.

14. The portable fan as described in claim 12, said fan further comprising means for repositioning adjustment of said fan head portion relative to said body portion.

15. The portable fan as described in claim 14, said repositioning means further comprising an elongated and flexible neck portion interconnecting said body portion with said fan head portion, said neck portion supplying a flow of an electrical power source originating from said body portion to a portable electric motor located within said fan head portion to drive said plurality of rotatable blade elements.

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